

# EL DORADO COUNTY EMS AGENCY PREHOSPITAL PROTOCOLS

Effective: July 29, 2013

Reviewed: N/A

Revised: July 2013, July 1, 2016

Scope: BLS/ALS – Adult



EMS Agency Medical Director

## CRUSH SYNDROME

### ADULT

#### BLS TREATMENT

**ABCs / ROUTINE MEDICAL CARE** –be prepared to support ventilation with appropriate airway adjuncts.

**FULL SPINAL PRECAUTIONS, if indicated.**

Administer high flow oxygen via non re-breather mask.

**Splint the effected limb(s) at heart level.**

Maintain body temperature.

**PROTOCOL PROCEDURE:** Flow of protocol presumes patient has had a full extremity (or more) crushed, pinned, or otherwise immobile with severely impaired circulation for **at least two (2) hours**. It is advisable in these situations for BLS personnel to **wait for ALS personnel** before attempting extrication. **Early notification to the hospital is essential for proper triage and a notification of surgical personnel.**

#### ALS TREATMENT

##### PRE-EXTRICATION:

**CONSIDER AIR AMBULANCE RESPONSE TO SCENE**

**EKG-** Apply and continuously monitor patient's cardiac rhythm.

**NORMAL SALINE** - Establish 2 large bore IVs via blood administration or macro drip tubing. Use IO if unable to establish IV. **Give 20 mL/kg IV/IO bolus**, prior to release of compression. If patient is in shock or is compensating for impending shock, refer to SHOCK protocol.

**PAIN MANAGEMENT** – As appropriate, refer to Formulary.

**IMMEDIATELY BEFORE EXTRICATION (IF POSSIBLE):**

**ALBUTEROL** - 5.0 mg in 6 ml NS via nebulizer. Run continuously before and after extrication.

**SODIUM BICARBONATE** – 1 mEq/kg up to 100 mEq IVP/IO (Flush line with NS before and after administration).

##### POST –EXTRICATION:

**RAPID TRANSPORT** - As soon as possible.

**CALCIUM CHLORIDE** – If suspected hyperkalemia (Compression  $\geq$ 4 hrs and: absent P waves, Peaked T waves, and/or prolonged QRS) give 1 gm IV/IO slowly over 5 minutes. Repeat at same dose if symptoms persist. (Flush line with NS before and after administration).

**NOTE: Do not run Sodium Bicarbonate and Calcium Chloride concurrently. Either flush the line well or use a separate line.**

PEDIATRIC**BLS TREATMENT**

**ABCs / ROUTINE MEDICAL CARE** – Be prepared to support ventilation with appropriate airway adjuncts.

**FULL SPINAL PRECAUTIONS, if indicated.**

Administer high flow oxygen via non re-breather mask.

**Splint the effected limb(s) at heart level.**

Maintain body temperature.

**PROTOCOL PROCEDURE:** Flow of protocol presumes patient has had their lower extremities/pelvis/torso crushed, pinned, or otherwise immobile with severely impaired circulation for **at least two (2) hours**. It is advisable in these situations for BLS personnel to **wait for ALS personnel** before attempting extrication. **Early notification to the hospital is essential for proper triage and notification of surgical personnel.**

ALS TREATMENT**PRE-EXTRICATION:**

**CONSIDER AIR AMBULANCE RESPONSE TO SCENE**

**NORMAL SALINE** – Establish IV or IO. Refer to shock protocol if patient is in shock.

**PAIN MANAGEMENT** – As appropriate, refer to Formulary.

**CONTACT BASE STATION-** For treatment determination and for early notification of destination and surgical personnel.

**FLUID BOLUSES (May be ordered)** – Give initial bolus of 20 mL/kg. If suspected history of volume loss and no improvement with initial bolus give additional fluid boluses at 20 mL/kg to a Max. of 60 mL/kg.

**IMMEDIATELY BEFORE EXTRICATION (IF POSSIBLE):**

**ALBUTEROL\*** - 5.0 mg in 6 ml NS via nebulizer. Run continuously before and after extrication.

**SODIUM BICARBONATE** – 1 mEq/kg up to 100 mEq IVP/IO (Flush line with NS before and after administration).

**POST –EXTRICATION:**

**RAPID TRANSPORT** - As soon as possible.

**BASE PHYSICIAN ORDER ONLY**– If suspected hyperkalemia (Compression  $\geq$ 4 hrs and: absent P waves, Peaked T waves, and/or prolonged QRS) CALCIUM CHLORIDE 20 mg/kg IV/IO push over 1 minute may be ordered. Repeat at same dose if symptoms persist. (Flush line with NS before and after administration).

**NOTES:**

\* Use 2.5 mg of Albuterol in 3 mL of NS/SW if patient is < 2 years old.

**Do not run Sodium Bicarbonate and Calcium Chloride Concurrently. Either flush the line well or use a separate line.**